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IN THE UNITED STATES PATENT & TRADEMARK OFFICE

IN RE APPLICATION OF :  
EGBERT SCHOELA, ET AL. : EXAMINER: JOY, D. J.  
SERIAL NO: 10/510,963 :  
FILED: NOVEMBER 1, 2004 : GROUP ART UNIT: 1774  
FOR: NOISE PREVENTION PLATE :  
CONSISTING OF ACRYLIC GLASS

APPEAL BRIEF

COMMISSIONER FOR PATENTS  
ALEXANDRIA, VIRGINIA 22313

SIR:

This is an appeal of the Final Rejection dated April 23, 2007 of Claims 1-21. A  
Notice of Appeal is **submitted herewith**.

I. REAL PARTY IN INTEREST

The real party in interest in this appeal is Roehm GmbH & Co. KG, having an address  
Kirschenallee, 64293 Darmstadt, Germany.

II. RELATED APPEALS AND INTERFERENCES

Appellants, Appellants' legal representative and the assignee are aware of no appeals  
or interferences which will directly affect or be directly affected by or have a bearing on the  
Board's decision in this appeal.

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### III. STATUS OF THE CLAIMS

Claims 1- 21, all the claims in the application, stand rejected and are herein appealed.

### IV. STATUS OF THE AMENDMENTS

No amendment under 37 CFR 1.116 has been filed.

### V. SUMMARY OF THE CLAIMED SUBJECT MATTER

Independent Claim 1 is drawn to an acrylic sheet for use as non-transparent sound-deadening unit in noise barriers comprising, a non-transparent sheet wherein the dimension of the sheet is 2 x 2 m or greater at a thickness of more than 8 mm, wherein the sheet contains threads, tapes, grids, or nets made from a material incompatible with the acrylic sheet that have been embedded into the acrylic sheet to bind splinters in the event of fracture of the sheet, and further comprising a filler wherein the proportion of the filler based on the total weight of the sheet reduced by the weight of the embedded threads, tapes, grids or nets, is from 40 to 80 per cent by weight.

See original Claim 1 and the specification at page 3, lines 25-26 and page 4, lines 12-13.

### VI. GROUNDS OF REJECTION

#### Ground (A)

Claims 1-6 and 15 stand rejected under 35 U.S.C. § 102(b) as anticipated by U.S. 6,305,492 (Oleiko et al).

Ground (B)

Claim 7 stands rejected under 35 U.S.C. § 103(a) as unpatentable over Oleiko et al in view of U.S. 4,904,760 (Gaku et al).

Ground (C)

Claims 8 and 10 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Oleiko et al in view of EP 0516299 (Imperial).

Ground (D)

Claim 9 stands rejected under 35 U.S.C. § 103(a) as unpatentable over Oleiko et al in view of U.S. 2003/0017289 (Schoela et al).

Ground (E)

Claim 11 stands rejected under 35 U.S.C. § 103(a) as unpatentable over Oleiko et al in view of WO 01/43952 (Boesman et al).

Ground (F)

Claims 12-14 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Oleiko et al in view of U.S. 3,780,156 (Cameron).

VII. ARGUMENT

Ground (A)

Claims 1-6 and 15 stand rejected under 35 U.S.C. § 102(b) as anticipated by Oleiko et al. That rejection is untenable and should not be sustained.

As described in the specification beginning at page 1, line 22, transparent noise barriers made from plastics materials such as polymethylmethacrylate (PMMA) are known, but have a relatively high price. In addition, known transparent plastic sound-deadening sheets are generally composed of acrylic sheets with dimensions of about 2 × 2 m, which in the case of relatively large noise barriers gives a corresponding separation of posts between one unit of the barrier and the next; that stronger sheets would have to be used if the separation between posts were to be increased; and nevertheless, wind load calculations show that for certain extreme wind loads even the use of acrylic sheets with thicknesses of 25, 30 or 35 mm is insufficient to meet the requirements, quite apart from the high price of acrylic sheets of these thicknesses.

Oleiko et al would appear to be an example of such a prior art sheet. Not only is the sheet of Oleiko et al transparent, but it is **intentionally** transparent, since a goal of Oleiko et al is to form a noise-protection wall that is not only transparent, but visually as inconspicuous as possible and barely perceptible (column 2, lines 32-36), which noise-protection wall segments consequently permit, for the first time, the provision of transparent noise-protection walls having transparent posts (column 3, lines 6-13). The present invention, on the other hand, is directed to **non-transparent** acrylic sheets.

While Oleiko et al discloses that various additives, such as fillers, may be added in an amount up to 80 wt.%, preferably up to 30 wt.%, Oleiko et al clearly exclude the presence of materials, and in such amounts, which would make their transparent sheets non-transparent.

If a proposed modification would render a prior art invention unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification. *In re Gordon*, 221 USPQ 1125 (Fed. Cir. 1984). See also MPEP 2143.01.

In response to the above arguments, the Examiner finds that since Oleiko et al may include conventional additives such as dyestuffs and pigments, these additives would make their sheets non-transparent.

In reply, it is clear that the addition of such conventional additives would not necessarily impair transparency, even if Oleiko et al had no requirement of transparency. “Transparent” is not a synonym of “colorless.” But since Oleiko et al does require transparency, it necessarily follows that if such conventional additives are present, Oleiko et al’s sheet is still transparent.

For all the above reasons, it is respectfully requested that this rejection be REVERSED.

Ground (B)

Claim 7 stands rejected under 35 U.S.C. § 103(a) as unpatentable over Oleiko et al in view of Gaku et al. That rejection is untenable and should not be sustained.

Gaku et al provides no suggestion or motivation to make a fundamental change to Oleiko et al from a transparent material to a non-transparent material. See *Gordon, infra*. Accordingly, it is respectfully requested that this rejection be REVERSED.

Ground (C)

Claims 8 and 10 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Oleiko et al in view of Imperial. That rejection is untenable and should not be sustained.

Imperial provides no suggestion or motivation to make a fundamental change to Oleiko et al from a transparent material to a non-transparent material. See *Gordon, infra*. Accordingly, it is respectfully requested that this rejection be REVERSED.

Ground (D)

Claim 9 stands rejected under 35 U.S.C. § 103(a) as unpatentable over Oleiko et al in view of Schoela et al. That rejection is untenable and should not be sustained.

Schoela et al provides no suggestion or motivation to make a fundamental change to Oleiko et al from a transparent material to a non-transparent material. See *Gordon, infra*. Accordingly, it is respectfully requested that this rejection be REVERSED.

Ground (E)

Claim 11 stands rejected under 35 U.S.C. § 103(a) as unpatentable over Oleiko et al in view of Boesman et al. That rejection is untenable and should not be sustained.

Boesman et al provides no suggestion or motivation to make a fundamental change to Oleiko et al from a transparent material to a non-transparent material. See *Gordon, infra*. Accordingly, it is respectfully requested that this rejection be REVERSED.

Ground (F)

Claims 12-14 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Oleiko et al in view of Cameron. That rejection is untenable and should not be sustained.

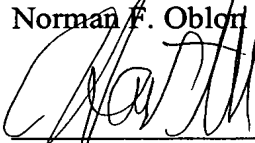
Cameron provides no suggestion or motivation to make a fundamental change to Oleiko et al from a transparent material to a non-transparent material. See *Gordon, infra*. Accordingly, it is respectfully requested that this rejection be REVERSED.

VIII. CONCLUSION

For the above reasons, it is respectfully requested that all the rejections still pending in the Final Rejection be REVERSED.

Respectfully submitted,

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CLAIMS APPENDIX

Claim 1: Acrylic sheet for use as non-transparent sound-deadening unit in noise barriers comprising, a non-transparent sheet wherein the dimension of the sheet is 2 x 2 m or greater at a thickness of more than 8 mm, wherein the sheet contains threads, tapes, grids, or nets made from a material incompatible with the acrylic sheet that have been embedded into the acrylic sheet to bind splinters in the event of fracture of the sheet, and further comprising a filler wherein the proportion of the filler based on the total weight of the sheet reduced by the weight of the embedded threads, tapes, grids or nets, is from 40 to 80 per cent by weight.

Claim 2: Acrylic sheet according to Claim 1, wherein the thickness of the acrylic sheet is in the range from more than 8 mm to 40 mm.

Claim 3: Acrylic sheet according to Claim 1, wherein the thickness of the acrylic sheet is in the range from 12 to 35 mm.

Claim 4: Acrylic sheet according to Claim 1, wherein the proportion of fillers, based on the total weight of the sheet, is in the range from 50 to 60 per cent by weight.

Claim 5: Acrylic sheet according to Claim 1, wherein the acrylic sheet has a substantially homogeneous distribution of the fillers in the sheet.

Claim 6: Acrylic sheet according to Claim 1, wherein the filler is selected from the group consisting of talc, dolomite, naturally occurring talc-and-dolomite intergrowths, mica, quartz, chlorite, aluminium oxide, aluminium hydroxide, clays, silicon dioxide, silicates,



carbonates, phosphates, sulphates, sulphides, metal oxides, powdered glass, glass beads, ceramic, kaolin, porcelain, cristobalite, feldspar, chalk and mixtures thereof.

Claim 7: Acrylic sheet according to Claim 1, wherein the filler particles used are lamellar fillers.

Claim 8: Acrylic sheet according to Claim 1, wherein the average particle size of the filler used is in the range from 0.01 to 80  $\mu\text{m}$ .

Claim 9: Acrylic sheet according to Claim 1, wherein the filler is a talc-and-dolomite intergrowth, optionally in a mixture with aluminium hydroxide.

Claim 10: Acrylic sheet according to Claim 1, obtainable by polymerizing a (meth)acrylate system in a casting process, where the polymerizable system comprises:

A) a) (meth)acrylate	50	-	100	% by wt
a1) methyl (meth)acrylate	0	-	99.99	% by wt
a2) C <sub>2</sub> -C <sub>4</sub> (meth)acrylate	0	-	99.99	% by wt
a3) $\geq$ C <sub>5</sub> (meth)acrylate	0	-	50	% by wt
a4) polyfunctional	0.01	-	50	% by wt
(meth)acrylates				
b) comonomers	0	-	50	% by wt
b1) vinylaromatics	0	-	50	% by wt
b2) vinyl esters	0	-	50	% by wt

where the selection of components a) and b) is such that together they give 100 per cent by weight of the polymerizable component A),

B) for each 1 part by weight of A), from 0 to 12 parts by weight of a (pre)polymer which is swellable or soluble in A),

C) initiator, its amount being sufficient to cure component A),

D) an optional component for adjusting the viscosity of the system,

E) optionally, conventional additives, their amount being up to 3 parts by weight for each 1 part by weight of A),

and

F) from 0.33 to 4 parts by weight of fillers for each 1 part by weight of binder (entirety of A) to E)),

and the viscosity of the (meth)acrylate system prior to the polymerization is greater than 0.1 Pa•s (greater than 100 cP).

Claim 11: Acrylic sheet according to Claim 1, wherein the acrylic sheet has steel threads which have been embedded therein, and which, optionally, have a coating of plastic, wherein the steel threads bind splinters in the event of fracture.

Claim 12: Process for producing an acrylic sheet according to Claim 1, comprising

- a) providing a polymerizable, filled (meth)acrylate composition,
- b) pouring the composition provided into a previously prepared mould in which have been positioned the threads, tapes, grids or nets intended to be embedded,
- c) polymerizing the composition in the mould at a temperature above room temperature to give a sheet and
- d) demoulding the sheet,

wherein the viscosity of the polymerizable, highly filled (meth)acrylate composition is adjusted to a value greater than 0.1 Pa•s prior to the polymerization.

Claim 13: Process according to Claim 12, wherein the viscosity of the composition is regulated by varying the ratio by weight of (pre)polymer to polymerizable monomers in the composition.

Claim 14: Process according to Claim 13, wherein the viscosity of the composition is regulated by varying the proportion of viscosity adjusters.

Claim 15: A non-transparent sound-deadening unit comprising noise barrier which comprises an acrylic sheet as claimed in Claim 1.

Claim 16: Acrylic sheet according to Claim 1, wherein the dimension of the sheet is 2 x 2 m or greater at a thickness of more than 12 mm.

Claim 17: Acrylic sheet according to Claim 2, wherein the thickness of the acrylic sheet is in the range from greater than 10 to 35 mm.

Claim 18: Acrylic sheet according to Claim 8, wherein the average particle size of the filler used is in the range from 0.05 to 30  $\mu\text{m}$ .

Claim 19: Acrylic sheet according to Claim 8, wherein the average particle size of the filler used is in the range from 0.1 to 20  $\mu\text{m}$ .

Claim 20: Acrylic sheet according to Claim 10, wherein the casting process is the cell casting process or a modified form thereof.

Claim 21: Acrylic sheet according to Claim 11, wherein the coating of plastic is present and comprises polyamide.

EVIDENCE APPENDIX

None.

RELATED PROCEEDINGS APPENDIX

None.